Commodity Highlight: Celery

Celery is well-known as a convenient, low-calorie, nutritious food. On average, U.S. consumers used 1.8 billion pounds of celery annually during 2002-04. Although equal to the last 3 years of the 1990s, it is down 5 percent from 1992-94. Use of celery per person began to slip in the late 1980s after remaining steady during the 1960s and 70s. Average per capita disappearance of celery declined 2 percent during each of the past two decades. This decline appears to have accelerated, with per capita use during 2000-04 averaging 10 percent below that of the 1990s. With this recent drop, celery use has averaged 6.3 pounds per person during the 2000s—about the same as that recorded in the 1920s. Per capita use peaked at 9.1 pounds in 1946 (perhaps due to the influence of victory gardens) before dropping back to 7.9 pounds the following year.

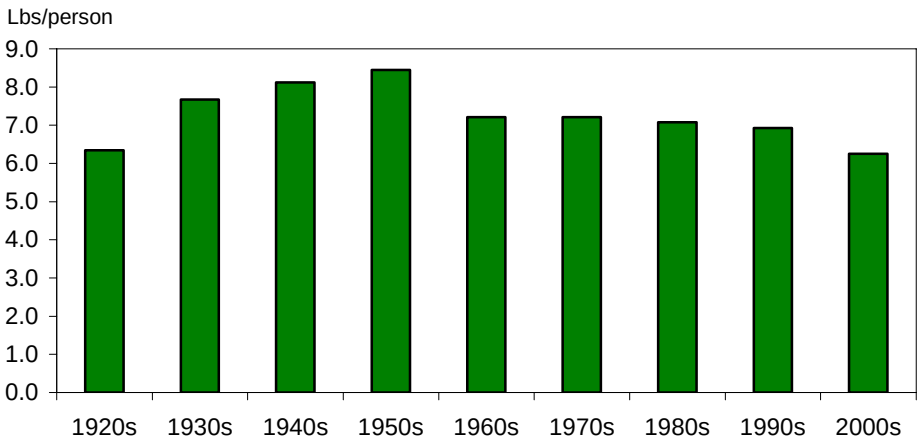
Although not a major plate vegetable, the versatility of celery (in both fresh and cooked forms) and its nutritional properties have made it a relatively steady item in the produce aisle. Two medium-sized celery ribs have just 20 calories yet provide 15 percent of the RDA for vitamin C and 8 percent of the recommended dietary fiber. Long an important ingredient in sandwich salad spreads, the popularity of green salads (including the Waldorf salad) and salad bars and the introduction of prepackaged fresh-cut products over the past two decades may have helped expand the reach of celery in the diets of American consumers.

Native to the Mediterranean region and the Middle East, celery has been consumed for more than 3,000 years. A biennial plant grown as an annual, celery is a prominent member of the parsley family, along with carrots, anise, and parsnips. Native celery can be found growing in the wild in damp or marshy areas in the Mediterranean region and in the Caucasus in western Asia. France is reportedly the principal European producer.

Modern celery is an improved version of the plant cultivated in Europe during the 18th century. Celery today is larger, more succulent, and less stringy than its ancestors. Most celery grown in the U.S. is a variant of the Pascal (green) type. A stalk of celery (sometimes called a head) consists of several individual fleshy leaf stems or ribs called petioles. "Celery hearts" are created by trimming off the outer ribs of a stalk, leaving the tender inner ribs.

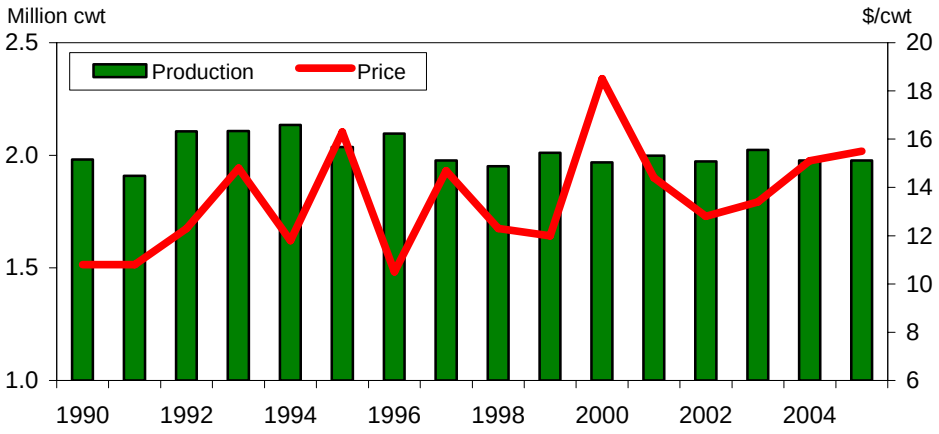
Figure 15

U.S. celery: Average per capita disappearance, by decade



Source: Economic Research Service, USDA.

Figure 16
U.S. celery: Production and season-average grower price, 1990-2005 1/



1/ Prices not adjusted for inflation.
Source: NASS, USDA, except 2005 forecast by ERS.

Celery is a cool-season crop that exhibits fairly uniform growth—a characteristic that allows growers to harvest fields with one pass. Field packing of fresh-market celery (as opposed to cutting and then hauling it to a shed for trimming, sorting, and packing) is the predominant and most efficient harvest method today. Celery destined for processing can be mechanically harvested. About 8 percent of all U.S. celery acreage is harvested for processing.

California Is the Top Producer

Although European settlers brought celery to America in the 1600s, the U.S. commercial celery industry did not take hold until the latter 1800s, when Dutch farmers in Michigan began marketing the crop. The industry spread south to Florida and then west to California, where it is concentrated today. The U.S. celery industry is relatively small, with 303 farms reporting acreage in the 2002 Census of Agriculture—down 27 percent since 1997. California, Michigan, and Florida account for about 97 percent of the Nation's celery crop, which had an average annual farm value of $261 million during 2002-04.

Over the past 20 years, the celery industry has become increasingly concentrated in California. This State now accounts for about 81 percent of national celery acreage—up from 76 percent in 1997 and 63 percent in 1992. California produces celery year-round, with output concentrated in the central and south coastal valleys, where the climate is mild. The counties of Ventura (46 percent of State production), Monterey (31 percent), and Santa Barbara (13 percent) account for most of the State's celery output. Although the bulk of California's celery enters the fresh market (including fresh-cut products such as celery sticks), frozen and dehydrated celery items are also produced.

Aside From Holiday Surge, Demand Is Constant

Fresh-market celery shipments stay fairly constant throughout the year, except for a seasonal peak during November and December. The holiday season heralds the peak of celery use in the U.S., as Americans eat more celery on party platters, with vegetable dips, and in turkey stuffing. January-to-October monthly celery

shipments generally average 7 to 8 percent of the annual total, with the lowest volume shipped in August (7 percent). However, reflecting the Thanksgiving holiday, volume rises to nearly 12 percent of the annual total in November, before slipping to 9 percent in December.

Celery sells largely in fresh form (including fresh-cut diced and sticks), with smaller amounts canned, frozen, and dehydrated. According to USDA's 1994-96 Continuing Survey of Food Intakes by Individuals, fresh celery, like most other foods, is largely consumed at home (76 percent). This reflects the wide variety of uses for celery at home, for example, as an ingredient and flavoring agent in main-course recipes, a component of green salads and of sandwich salad spreads, a dipping vegetable for parties, and a convenient snack item.

In the away-from-home market, U.S. consumers most often eat celery in standard "white tablecloth" restaurants (14 percent). Celery shippers have been able to carve only a small niche in the expanding fast-food market, which is responsible for only 4 percent of celery consumption. Consumers eat more than 90 percent of processed celery products (e.g., soup, dehydrated, and frozen) at home.

The South (a 16-State region defined by the Census Bureau) eats less fresh-market celery than consumers in all other areas of the country. This may reflect preferences along racial lines, as 53 percent of non-Hispanic Blacks live in the South, and Blacks are the only major racial group to consume less celery in proportion to their numbers in the population. Whites, non-white Hispanics, and others (largely Asians) each consumed more celery per capita than non-Hispanic Blacks. For processed celery products, people in the Northeast consumed about half of the national total.

Relative to other age groups, people under the age of 20 tend to eat little celery. People in this age group account for nearly 30 percent of the population, yet reported consuming only 17 percent of the fresh celery. Given the steady nature of celery use over the past several decades, this could reflect a normal maturation of tastes and preferences that favors celery consumption as people age. An alternative scenario suggests that celery use may continue to decline as the current population ages.

United States Is A Net Exporter

The U.S. continues to be a net exporter of celery. In 2002-04, exports of fresh-market celery totaled $48 million, while imports were valued at $9 million. During

Table 16--U.S. celery export volume, 2000-04

Item	2000	2001	2002	2003	2004	Change 2003-04
			----- Million pounds -----			Percent
Canada	189	187	198	206	215	4
Taiwan	16	19	14	15	17	15
Japan	11	12	9	10	10	-1
China/Hong Kong	29	16	12	11	8	-27
Singapore	6	6	7	8	7	-12
Mexico	6	3	4	6	5	-5
Others	4	6	4	5	4	-24
United States	262	249	248	260	266	2

Source: Bureau of the Census, USDC.

this period, an average of 13 percent of celery supply was exported annually—a slow but steady upward trend from 12 percent during the 1990s and 11 percent during the 1980s. In 2002-04, Canada, Taiwan, and China/Hong Kong were the largest importers of U.S. celery, accounting for 80, 6, and 4 percent of fresh-celery exports, respectively. The U.S. is the leading foreign supplier of celery to these countries.

Steady, ample supplies from a relatively efficient domestic industry keep prices low and limit opportunities for other nations wishing to export fresh celery to the U.S. Despite this, import volumes have been trending upward since the late 1980s—doubling between 1992-94 and 2002-04. During 2002-04, fresh imports accounted for 4 percent of celery consumption, up from 2 percent during 1992-94 and 1 percent during 1982-84. Eighty percent of the fresh celery imported by the U.S. comes from Mexico, and most enters the country during the winter months. The U.S. also annually imports $3 million in dried celery stalks, with the bulk coming from China and Chile.

Price Trends Are Flat

Although f.o.b. prices for celery can fluctuate widely (largely due to weather variations), the trend in celery prices during the past decade was relatively flat. Between 1992-94 and 2002-04, nominal f.o.b. point prices increased just 6 percent. Unlike storable commodities such as potatoes, fresh-market celery exhibits a weak seasonal price pattern that reflects relatively consistent domestic marketing throughout most of the year. Celery prices also follow a pronounced 3-year cycle, which may reflect recurring weather patterns.

Like many vegetables, the proportion of the retail value of celery accounted for by the shipping-point price has been in a slow but steady decline. During 1995-99, growers and shippers received about 25 percent of the retail value. This was down from 26 percent during 1990-94, 27 percent during 1985-89, and 28 percent during 1980-84. Although a number of factors probably account for this trend, one explanation may be that farm prices are rising more slowly because productivity is growing faster (as efficiency increases) in the farm sector than in the retail sector.

Table 17--U.S. celery, all uses: Estimated supply, disappearance, and price

Year	Supply			Utilization			Season-ave. price	
	Production 1/	Imports 2/	Total	Exports 2/	Domestic 3/	Per capita use	Current dollars 1/	Constant dollars 4/
	-- Million pounds --					Pounds	-- $/cwt --	
1985	1,834.9	12.8	1,847.7	207.0	1,640.7	6.88	10.30	14.77
1990	1,981.6	40.7	2,022.3	222.7	1,799.6	7.19	10.80	13.24
2000	1,967.7	64.4	2,032.1	261.8	1,770.3	6.27	18.50	18.50
2001	1,997.7	81.0	2,078.7	249.2	1,829.5	6.41	14.40	14.06
2002	1,972.7	90.7	2,063.4	247.8	1,815.6	6.30	12.80	12.30
2003	2,023.6	59.7	2,083.3	260.2	1,823.1	6.26	13.40	12.64
2004	1,977.2	49.6	2,026.8	265.3	1,761.5	5.99	15.10	13.96
2005 f	1,978.0	67.0	2,045.0	261.0	1,784.0	6.02	--	--

-- = Not available. f = ERS forecast. 1/ Source: NASS, USDA. 2/ Source: Bureau of the Census, USDC. 3/ Domestic disappearance for all uses, including shrink and loss. 4/ Constant dollar prices calculated using the GDP deflator, 2000=100.

Source: Economic Research Service, USDA.

For more information on celery and other vegetables, see:

http://www.ers.usda.gov/briefing/vegetables

http://www.ers.usda.gov/publications/agoutlook/nov2000/nov2000c.pdf

http://www.ers.usda.gov/Publications/vgs/